



Protecting Foxtail Pines in the Kern River Drainage

Restriction

These parks **require** that *all* campers in the Kern River drainage refrain from having campfires above 10,400 feet (3,170m) in elevation. This will protect more than 64% of the foxtail pine forest and its remnant down-wood resource.

There are two exceptions: no campfires are allowed within ¼ mile (403m) of the food storage locker at Crabtree Meadow on the Pacific Crest Trail, and no campfires are allowed above 10,000 ft (3,048m) in the Nine Lakes Basin & Big Arroyo areas. These elevation limits are being monitored by park managers to protect resources.

NOTE: This requirement is in addition to all other existing campfire regulations in Sequoia and Kings Canyon National Parks.

This 10,400 ft. elevation limit is the same in the adjacent Inyo and Sequoia National Forests (John Muir and golden Trout Wildernesses) to the east and south.

This limit accomplishes several objectives:

- It protects foxtail pines and other down-wood resources.
- It makes the elevational limits on fire consistent, reducing confusion for wilderness users moving between these areas.



Foxtail pine by Jane Gyer

What is so important about foxtail pines and down-wood?

Foxtail pine (*Pinus balfouriana*, *ssp. austrina*) is a long-lived tree species endemic to the southern Sierra Nevada. Trees commonly live more than 1,000 years with the oldest recorded individual exceeding 2,100 years of age. Very few trees live longer.

In addition to their tough, weathered beauty, their wood holds special value: Foxtail growth rings vary measurably in response to variations in climate. In addition, the wood is high in resins, so it lasts many years after a tree dies (called remnant or sub-fossil wood). These characteristics make foxtails especially valuable for studying past fluctuations in climate. Foxtail-pine wood has yielded chronologies of climate going back 3,000 to 4,000 years! Scientists are working to expand this amazingly accurate record, gaining more valuable information about variations in temperature and precipitation over past millennia.

What is so important about foxtail pines and down-wood? (continued)

Additionally, high in the mountains are the “ghost forests,” or stands of dead foxtail pines above current treeline, that may have died out thousands of years ago. These ghost forests are the result of past climatic shifts when conditions became too harsh for trees to survive. Knowing when these forests died provides valuable clues about long-term climatic trends.

The heart of the range of the southern, or “*austrina*” sub-species of foxtail pine lies in the upper Kern River drainage of Sequoia National Park. Longest-lived of the foxtail species, this exemplary population has been known and documented for decades. (A separate, shorter-lived sub-species is found in the Klamath River drainage in northern California.)

Foxtail is also closely related to the two bristlecone pine species, the Great Basin bristlecone (*P. longaeva*), and Rocky Mountain bristlecone (*P. aristata*), the oldest trees in the world.

What is threatening foxtail pines?

A major threat to foxtail pines is the consumption of the valuable down-wood in recreational campfires. These parks manage most of the parks’ wilderness using guidance from the 1986 *Backcountry Management Plan*. This plan, based on the best knowledge available at the time, established a fire limit of 11,200 ft. (3,414m) in the Kern River drainage.

Since then wilderness managers have witnessed sites below this limit lose the majority of their down-wood due to frequent recreational campfires. To address this problem, a variety of localized, area specific restrictions were put into place. Up to 2007, twelve area specific restrictions had been enacted.

The completion of the 2007 *Vegetation Map for Sequoia and Kings Canyon National Parks* gives park managers a new tool to accurately describe the distribution and assess the vulnerability of foxtail pine forests to various threats. The 2007 *Vegetation Map* shows that only about 12% of all foxtail pine forests are above 11,200 ft (3,414m) elevation, a situation that does not adequately protect this valuable resource. This too-high campfire limit was allowing a valuable non-renewable resource to be consumed, a situation that is not acceptable in a national park. By adopting a campfire limit of 10,400 ft (3,170m), more than 64% of foxtail pine forests are now protected.

How can I help?

- Follow this recommendation and only have campfires when you are below 10,400 ft (3,170m) in the Kern River drainage, and do not have campfires above 10,000 ft. (3,050m) in the Nine Lakes and upper Big Arroyo areas; or when you are within ¼ mile (403m) of the food storage locker at Crabtree Meadow on the Pacific Crest Trail.
- Be a conscientious, informed wilderness user.
- Provide your input to Sequoia and Kings Canyon National Parks on wilderness use issues - go to: www.nps.gov/seki and click on “Contact Us.”

You may also contact the Wilderness Office at 559-565-3766 or visit: www.nps.gov/seki/planyourvisit/wilderness.htm for more information about visiting the Sequoia-Kings Canyon Wilderness.